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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/781,278	02/13/2001	Seiji Umemoto	Q63079	9442

7590

04/21/2003

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EXAMINER

AKKAPEDDI, PRASAD R

ART UNIT

PAPER NUMBER

2871

DATE MAILED: 04/21/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/781,278

Applicant(s)

UMEMOTO, SEIJI

Examiner

Prasad R Akkapeddi

Art Unit

2871

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 July 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 8.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: .

DETAILED ACTION

Drawings

1. The drawings filed on 02/13/2001 & 07/20/2001 are acceptable subject to correction of the informalities indicated on the attached "Notice of Draftperson's Patent Drawing Review," PTO-948. In order to avoid abandonment of this application, correction is required in reply to the Office action. The correction will not be held in abeyance.

Specification

2. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Double Patenting

3. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

4. Claims 1-8 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-11 of copending Application No. 09/758,165 in view that the optical film as claimed in the copending application No. 09/758,165 could also be the reflector as claimed in the instant application.

This is a provisional obviousness-type double patenting rejection.

Claim Rejections - 35 USC § 112

5. Claims 5 and 6 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The statements (a) "a projected area, on said film plane, of said flat surfaces is not smaller than 5 times as large as a projected area, on said film plane, of said slopes each having an inclination angle of not smaller than 35 degrees" as recited in claim 5 and (b) "discontinuous grooves each having a length not smaller than 5 times as large as a depth of each of said discontinuous grooves and having optical path changing slopes formed in a direction of the length of said discontinuous grooves" as recited in claim 6 is not clear due to multiple negative phrases.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1 and 7-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Akins et al. (Akins) (U.S. Patent No. 6,285,426).

As to claim 1: Akins discloses a reflector (10) comprising a transparent film (16), an adhesive layer (30) (Col. 5, lines 14-15), a groove structure (32) provided on the other surface of the transparent film (16), the groove structure having a plurality of grooves including optical path changing slopes aligned in a substantially constant direction at an inclination angle in a range of from 10 to 60 degrees (Col. 6, line 33), a transparent cover film (28) formed so as to cover an outer surface of the groove structure; and a light diffusing type reflection layer disposed on an outer surface (Col. 5, lines 38-40).

Note that the range for the angles as disclosed by Akins overlaps the range of about 35 to 48 degrees (asserted in claim 1). Therefore, the range in claim 1 would have at least been obvious. See In re Malagari, 499 F.2d 197, 182 USPQ 549 (CCPA 1974).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the Akins et al. reflector with the groove structure having inclination angles in the range of 35 to 48 degrees.

As to claims 7-8: Akins discloses the ridge lines are inclined at an angle between 10 to 60 degrees and the adhesive layer is of light diffusing type (Col. 5, lines 15-16). Note that the range for the angles as disclosed by Akins overlaps the range of +/- 30 degrees (asserted in claim 7). Therefore, the range in claim 1

would have at least been obvious. See In re Malagari, 499 F.2d 197, 182 USPQ 549 (CCPA 1974).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the Akins et al. reflector with the groove structure having inclination angles in the range ± 30 degrees.

As to claims 9-10: Akins discloses a lighting external light double mode transmission type liquid crystal display device (Col. 1, lines 62-67) having reflector as described above. The reflector is suitably affixed (bonded) (Col. 5, line 11) to a back side (Fig. 2) through an adhesive layer (30) of the reflector. Akins also discloses a light source (76) disposed on a side surface (16, bottom side) of the liquid crystal panel and the side (bottom) surface facing the optical path changing slopes (42) of the reflector.

Note that the range for the angles as disclosed by Akins overlaps the range of about 35 to 48 degrees (asserted for the reflector in claim 1). Therefore, the range in claim 1 would have at least been obvious. See In re Malagari, 499 F.2d 197, 182 USPQ 549 (CCPA 1974).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the Akins et al. reflector with the groove structure having inclination angles in the range of 35 to 48 degrees.

8. Claims 2-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Akins as applied to claim 1 above, and further in view of Naito (U.S. Patent No. 6,091,469) and Zimmerman et al. (Zimmerman) (U.S. Patent No. 5,598,281).

a. As to claim 2: Akins discloses a reflective metallic layer (68) on the prismatic surfaces, but does not disclose two kinds of slopes. However, Naito discloses a reflector with two kinds of slopes in which one kind of slopes aligned in a substantially constant direction, while the other kind of slopes are aligned substantially in a direction opposite (Fig. 2). Neither Akins nor Naito disclose a release liner. However, Zimmerman discloses a release liner (112) and an adhesion layer (28). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to adapt the reflector with two kinds of slopes as disclosed by Naito for eliminating interference from the surface reflected light while providing a bright display over a wide angle and increasing the viewing angle (Col. 3, lines 18-20), and the release layer as disclosed by Zimmerman for ease of fabrication of the grooves during the photolithography step (Col. 10, lines 11-40).

As to claims 3-4: Akins discloses the inclination angle of each of said optical path changing slopes with respect to the film plane is in a range of from 10 to 60 degrees and the grooves have generally triangular cross section (Col. 6, lines 26-27).

Note that the range for the angles as disclosed by Akins overlaps the range of about 35 to 48 degrees (asserted in claim 1). Therefore, the range in

claim 1 would have at least been obvious. See In r Malagari, 499 F.2d 197, 182 USPQ 549 (CCPA 1974).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the Akins et al. reflector with the groove structure having inclination angles in the range of 35 to 48 degrees.

2. Claims 5 and 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Akins in view of Bao et al. (Bao) (U.S.Patent No. 6,266,108).

b. Akins does not disclose a groove structure with flat surfaces. However, Bao discloses a light reflector with flat surfaces having an inclination angle of 4.2 degrees which is not larger than 5 degrees as recited. Bao also discloses that the grooves are discontinuous. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to adapt the groove structure with flat surfaces to enable the viewing of an image in a dark environment while not spoiling the image quality in a bright environment.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Prasad R Akkapeddi whose telephone number is 703-305-4767. The examiner can normally be reached on 7:00AM to 5:30PM M-Th.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert H Kim can be reached on 703-305-3492. The fax phone numbers

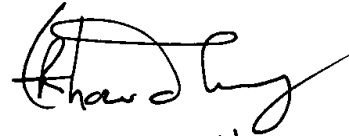
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for the organization where this application or proceeding is assigned are 703-872-9318 for regular communications and 703-872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0530.



April 16, 2003



T. Chowdhury
Primary Examiner
Tech. Center 2800